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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,843	01/27/2005	Shik Chi Tsang	056646-5022	8736

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MORGAN LEWIS & BOCKIUS LLP
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WASHINGTON, DC 20004

EXAMINER

HAILEY, PATRICIA L

ART UNIT	PAPER NUMBER
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1755

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

6

Office Action Summary	Application No.	Applicant(s)	
	10/500,843	TSANG ET AL.	
	Examiner	Art Unit	
	Patricia L. Hailey	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6-8,11,12,17-19,21 and 24-26 is/are rejected.
- 7) ☐ Claim(s) 2-5,9,10,13-16,20,22 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/07/04, 08/18/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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Applicants' Preliminary Amendment filed on July 7, 2004, has been made of record and entered. No claims have been canceled or added, but the pending claims have been amended to conform to U. S. practice; no new matter has been added via these amendments.

Claims 1-26 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document or Documents was or were filed on July 7, 2004.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 6-8, 11, 12, 17, and 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 9-12, and 14-16 of copending U. S. Patent Application Publication No. 2005/0106098 (which corresponds to copending Application Serial No. 10/500,842).

Although the conflicting claims are not identical, they are not patentably distinct from each other because:

The instant claims are directed to a method of forming microparticles with a ferromagnetic core encapsulated in a graphitic shell containing hetero atoms, whereas the claims in the Patent Application Publication are directed to a method of making microparticles having a metal-containing core encapsulated in a graphitic shell containing hetero atoms.

The respective methods are defined by comparable steps. Additionally, the ferromagnetic core recited in the instant claims (claims 1, 11, and 12) corresponds to the metal-containing core recited in claim 2 of the Patent Application Publication.

The heteroatoms recited in claims 6-8 of the instant application correspond to claims 9-11 in the Patent Application Publication.

Claims 17 and 18 in the instant application correspond to claims 12, 14 and 15 in the Patent Application Publication.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. ***Claims 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.***

Claims 25 and 26 are directed to methods involving the employment of microparticles "as catalyst in a liquid phase reaction", but these claims do not explicitly recite any process steps or parameters defining said reaction.

Applicants are respectfully reminded that, pending amendments to claims 25 and 26, these claims may be subject to withdrawal from consideration as a result of an election by original presentation.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. ***Claims 17-19, 21, 24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruoff et al. (U. S. Patent No. 5,547,748, Applicants' submitted art).***

Ruoff et al. disclose nanoencapsulate particles comprising a polyhedral outer shell of nested, concentric layers of carbon, which defines an internal cavity or void, within which (the cavity or void) is encapsulated is a metal. See col. 2, lines 32-36 of Ruoff et al. (considered to read upon **claims 17 and 18**).

Paramagnetic and ferromagnetic elements, such as Fe, Co, Ni can be encapsulated, as well as metal alloys. See col. 2, line 58 to col. 3, line 3 of Ruoff et al., as well as col. 4, line 55 to col. 5, line 2 (considered to read upon **claim 24**).

An exemplary nanoparticulate has an outer diameter of approximately 53 nm, and an inner diameter of approximately 28 nm. See col. 4, lines 49-54 of Ruoff et al. (considered to read upon **claim 19**).

In other embodiments, the carbon shell of the nanoparticulate is derivatized with a molecule; for example, the corners of the carbon shell, which are likely reactive, are covalently modified with appropriate functional groups. See col. 3, lines 4-7 of Ruoff et al., as well as col. 8, lines 52-67, which discusses exemplary reactions for derivatizing the nanoencapsulates (considered to read upon **claim 21**).

The nanoencapsulates have potential catalytic applications. See col. 13, line 56 to col. 14, line 7 of Ruoff et al. (considered to read upon **claim 25**).

In view of these teachings, Ruoff et al. anticipate claims 17, 18, 19, 21, 24, and 25.

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Allowable Subject Matter

8. Claims 2-5, 9, 10, 13-16, 20, 22, and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

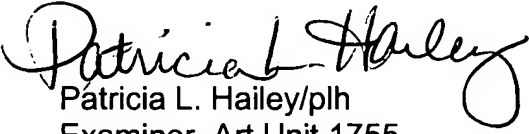
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Patricia L. Hailey/plh
Examiner, Art Unit 1755
February 20, 2007


J. A. LORENGO
SUPERVISORY PATENT EXAMINER